

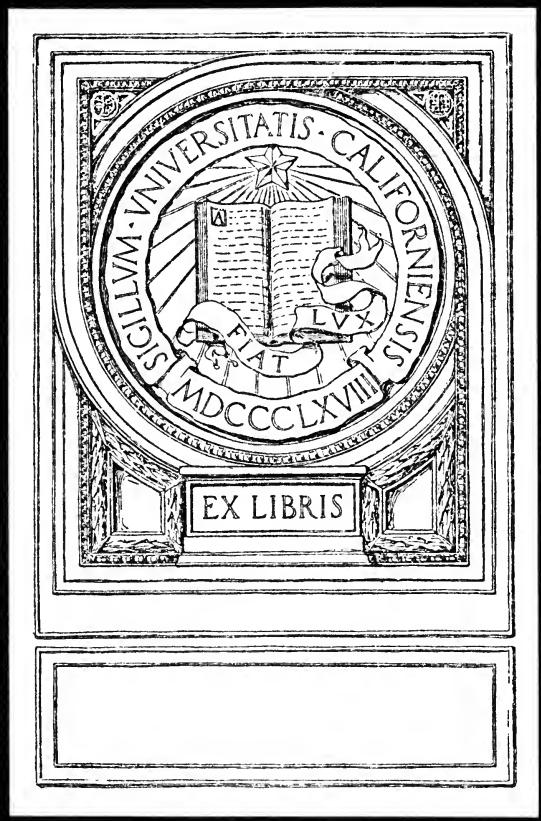
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HELP-YOUR-SCHOOL SURVEYS

Is the central office organization adequate?
Are the financial records adequate?
Are the educational records adequate?
Is the teaching efficient in classes seen?

Waterbury Public Schools and Classroom Instruction in St. Paul

Summaries of two surveys made by the

BUREAU OF MUNICIPAL RESEARCH
261 Broadway, New York City

Price 15 cents; 10 for \$1.00

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FOREWORD

In February, 1913, the Bureau was asked by the Committee of Thirty re Needs of St. Paul's Public Schools, to answer within the limits of a six day survey of school management the following four questions:

- Is the central office organization adequate?
- Are the financial records adequate?
- Are the educational records adequate?
- Is the teaching observed in 40 classes efficient?

The full report was submitted to the committee March 4th and published in local newspapers. The study of class room instruction by Mr. A. N. Farmer, now in charge of the normal school study for the Wisconsin State Board of Public Affairs, is reprinted here; the other portions are omitted because their points are largely covered by the Waterbury findings.

The three day survey of the Waterbury schools was made by Dr. Horace L. Brittain, now director of the Ohio State School Survey. It was included at the request of a committee of business men as part of an investigation of the organization and business procedure of all city departments,—financial methods, departments of police, fire, health, charities, water, parks, public works, public library, clerks, inspector of buildings, etc.—which was submitted by the Bureau April 16, 1913. The Waterbury papers printed the summary which is here given with the addition of some tables from the complete text.

These two reports are reprinted for the use of school commissioners, supervisors and laymen as pointing the way to easy-to-take remedial steps which may be needed in your city.

BUREAU OF MUNICIPAL RESEARCH

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**SURVEY OF PUBLIC SCHOOLS
OF
WATERBURY, CONNECTICUT**

EXTENT OF SURVEY

Visits during 3 days in February, 1913, to 18 schools in the second taxation district, 17 elementary and one high school; study of educational records and reports in offices of principals and superintendent, of routine procedure in offices of inspector of buildings and superintendent, etc

Points marked * were not investigated in detail and for this reason no fuller treatment of them appears in the text of the full report, which consisted of 35 typewritten pages, 9 pages of tables, and 7 exhibits. The actual cost of making the survey and report was \$126.89

CONDITIONS FAVORABLE TO EFFICIENCY

Administration

*The superintendent of schools has great freedom in the selection of teachers. Only once in 16 years has one of his appointments been set aside by vote of the board of education

For over 10 years Waterbury has had in use an excellent system of continuous record cards for pupils in the schools, excellent in that

- (a) by reason of the use of individual cards, the complete record can be moved from school to school as easily as the boy
- (b) the things superintendent, board members and taxpayers ought to know about the children are there on the card

The superintendent receives excellent reports on enrollment, transfers, net membership, attendance, promotions, double promotions, absence of teachers, attendance of teachers at professional gatherings, corporal punishment, etc. These reports are excellent in that

- (a) adequate information is given
- (b) reports are frequent
- (c) directions are clear

At the superintendent's office is a professional teachers' library of several hundred volumes, carefully indexed. Thirty or 40 magazines are also kept in this room

*The routine business of the office of the superintendent of schools is well organized in that

- (a) clerks work under a regular schedule for each month of the year
- (b) assistants' schedules tell them when to remind the superintendent of matters demanding his attention
- (c) all official papers are systematically filed in book form
- (d) record is kept of phone calls

The distribution of text books and supplies is under good control because the system shows stock on hand and amount consumed as well as purchased. Budget estimates for text books and supplies are based on a definite schedule

The average salary for teachers in the second taxation district (being fourth on the list of Connecticut towns, according to the report of the state commission of education) is relatively high, placing the city in a strong position in competition for good teachers in Connecticut and neighboring states

Salary Schedules

POSITION	SALARY	
	Minimum	Maximum
High school teacher, man	\$750	\$1500
“ “ woman	700	1100
Grade principal's assistant		850-900
Department teachers		850
Teachers, grade II-IX		800
“ grade I		850
“ kindergarten		800
Kindergarten assistant		700

*Considerable freedom seems to be allowed to the principals in developing efficiency methods in their own schools. One principal was found to have a special card index scheme giving names of pupils residing in houses where contagious disease had been reported

The superintendent spends from 3 to 4 hours daily among the schools, except during such periods as the beginning and end of terms and during budget making. The supervisor of primary schools spends all the regular school hours in supervision. The superintendent meets all the principals every 2 weeks to discuss such topics as text books, course of study, etc. The supervisors of primary grades have regular and frequent meetings. Principals meet their teachers every 2 weeks for discussion

Construction and Sanitation

All school rooms are scrubbed 3 times a year and kindergarten rooms once a week

Push brushes and a sweeping mixture are in use in all buildings

The tinting of the rooms is standardized

The high school is provided with a vacuum cleaning system

The board of education has adopted a definite policy with regard to the character of school construction

The lighting of new school buildings is satisfactory as to

- (a) height of windows
- (b) piers narrow and beveled
- (c) narrow spaces between windows
- (d) 4 buildings exceed standard lighting

Most of the school buildings are provided with exhaust or plenum fans, or with both

In recent years there has been a great improvement in the construction of sanitaries by replacing wooden partitions

and floors with stone and by installing well-constructed toilets in old buildings

Corridors and stairways in new buildings are faced with salt-glazed or painted brick

All school buildings, except 4, are equipped with fireproof stairways

All doors open outward; many outside doors are provided with panic bolts

Non-adjustable seats are being rapidly replaced by adjustable seats

The schools are provided throughout with sanitary drinking fountains

Most of the new buildings have automatic control of temperature in the class room

The school grounds are generally of good size compared to school grounds in other cities of the size of Waterbury. The location of schools is generally good, and in the case of the more recent buildings, very fine

Text Books and Course of Study

*Principals and teachers are consulted in the choice of text books and to some extent in outlining courses of study

Manual training and domestic arts are taught in the elementary schools from the fifth grade up. An evidence of effective teaching is the fact that 300 girls made their graduation dresses for June

*Waterbury elementary schools offer a satisfactory course in physiology and hygiene

The night schools offer besides the regular grammar, high school and commercial courses, instruction in practical arts, such as dressmaking, millinery, drawing and chemistry

Of the average enrollment in night schools the percentage that attends is high

Evening School Enrollment and Attendance

CITY	Enrollment	Attendance	Sessions	% Att. on Enr.
Hartford	2,522	646	75	26
Hew Haven	1,066	315	75	29
New Britain	944	303	75	32
Waterbury	803	518	86	64.5
Meridan.....	366	188	75	51
Danbury	282	83	75	29
Ansonia	149	39	50	26

180 apprentices are enrolled in the continuation school while there is a waiting list of 40. Each apprentice receives 4 hours of class room instruction per week, in addition to visits from the director of the school while the apprentice is at work in a particular shop. The classes are limited in size to 20 each. The director, in addition to thorough technical training, is experienced in shop work and factory practice

Outside Cooperation

Waterbury affords many examples of outside cooperation, such as:

- (a) a bequest for manual training
- (b) the initiation of kindergartens, the beginning of public library work with school children, the opening of the first open-air school, the encouragement of the decoration of the school rooms with plaster casts and reproductions of paintings, by the Woman's Club of Waterbury
- (c) assistance in the initiation of cooking instruction in the public schools, by the Friendly League of Waterbury
- (d) supplying gymnasium facilities for boys in public schools by the Waterbury Boys' Club and the Y. M. C. A.
- (e) support of the continuation school movement by manufacturers and labor unions of Waterbury—support without which success would have been impossible

DEFECTIVE CONDITIONS EASILY CORRECTED BY SLIGHT IMPROVEMENTS IN ADMINISTRATION HEREWITH SUGGESTED

The school census is kept in a bound book instead of in a card catalogue, thus making difficult the current correction of the census and causing unnecessary writing of the same children's names year after year

Before the next census is taken the superintendent's office should be provided with the necessary cabinets and forms for a census in card catalogue form

Continuous record cards of children are not arranged by classes and grades, hence each teacher at the beginning of the year can not easily make an age-progress-health study of her class

At least in the offices of the principals the continuous record cards should be arranged at once by grades and classes, and at the beginning of the next school year each

teacher should make an age-progress study of her class by means of the suggested form, and if data are then available, an age-progress-health-mentality study of her class according to a form similar to that given in Appendix A

*Accurate per capita costs for text books and supplies, based on actual consumption, are available for the entire city but not for each school, although the necessary accounts are kept

The next report of the board of education should utilize this information and state accurate per capita costs for each function in each school, kind of school and special activity. Where possible pupil-subject-hour costs should also be computed

Bills for repairs are not checked up properly as to time by records kept by principals or janitors

Firms doing business with the education department should be required so to itemize their bills for labor as to make it possible to check them by time records kept by principals or janitors in all school buildings

Time cards are not in use in the office of the inspector of school buildings; neither, as a usual thing, is the time of the various men in the repair squad kept by principals or janitors

A thorough system of time cards should be installed immediately in the office of the inspector of buildings

Records of cost of materials and labor for each repair job are not kept and even when these are continually recurrent they are not standardized

Records of cost of every job for materials and labor should be made a basis for standardizing the cost of the various sorts of repairs, renewals and renovations which constantly recur. Assuming that the whole amount, \$16,000, allowed this year for repairs, will be expended this year and that repairs are charged to other accounts, repairs will cost 17% of the total value of school buildings which are under the direct control of the Waterbury board of education. An unusual proportion of the school buildings in Waterbury are of comparatively recent construction. In New York where there are many old school buildings, the budget allowance for repairs is on a basis of 1½%

Records of the dates when rooms are renovated, etc., are not kept, so that it is not possible at present to make a time schedule for the life of different sorts of repairs

A card catalogue giving the history of each job of repairing, renewing or renovating should be installed at once as a basis for standardizing the life of all sorts of work done on the physical plant

The instructions to janitors are not detailed enough to secure uniformity in essentials, such as proper use of feather dusters and the flushing of water closets; nor does the present system get sufficiently quick response when janitors' supplies and small repairs are needed

Detailed regulations as to care of school buildings, notification of needed repairs and supplies, etc., should be drawn up as soon as possible and placed in the hands of all principals, teachers and janitors. Principals and teachers should be held responsible for securing proper care of their buildings from day to day in order that janitorial service may be effectively standardized. The board of education should take immediate steps to have the repair squad and janitorial force put under civil service regulations. The superintendent of schools has no veto on the plans of buildings. Buildings may be planned, contracts let, and even construction started without any knowledge of the superintendent during his absence from the city at vacation time

Where yards are small and consequently cut up in wet weather, as in the Clay Street school, the school room floors are extremely muddy or dusty, yet they are not treated with a non-drying oil

The floors in such buildings should be treated with non-drying oil, well rubbed in. However, no application of oil should be made on the floor immediately in the vicinity of the teachers' desks

Toilet seats are often rough and consequently difficult to keep clean

Toilet seats should be kept always smooth by varnishing or otherwise and should be thoroughly cleaned at least once every 24 hours. Some janitors should use a strong disinfectant, such as formaldehyde; some have been using various coal tar products which disguise any odors that may be lurking in the toilets

Although most of the sanitary drinking fountains are excellent, one type in use in Waterbury necessitates children bringing their hands very close to the jet, thus affording chance of contagion

The form of sanitary fountain to be attached to old fixtures should be of a kind which will not bring children's hands in contact with or close proximity to the jet

During the inspection several rooms were found to be somewhat overheated

All principals, teachers and janitors should be given thorough instruction in the ventilating and heating systems in their own buildings, and every teacher should be pro-

vided with blanks on which to report temperature records. Steps should be taken to make it impossible to have overheated class rooms, either by continuous expert attention to the automatic control system, or in some other way. In several new buildings some rooms have the air inlet and outlet too close together, in some places as close as five feet. This tends to the creation of dead air spaces in the parts of the room farthest away from the inlets and outlets

Schools are not provided with individual paper towels for pupils or with rolls of paper toweling

All schools should be provided with paper towels for the use of pupils

Thoroughly organized school museums and reflecting apparatus are not provided in all elementary schools to shorten and make more efficient the teaching of geography, history and English

Steps should be taken through neighborhood cooperation to procure stereopticons and apparatus for solid projection and museums for all schools. This apparatus could be used effectively in social center and night school work, particularly among foreigners, as well as in regular class room instruction

*Organized play does not receive sufficient attention, particularly in the primary and intermediate grades

Course of study should be provided in organized play, and teachers should be instructed in methods of teaching plays and games

Time cards showing amount of time spent in teaching, in office work and in class room supervision from month to month, are not provided for the principals, and regular reports on apportionment of principals' time are not sent to the superintendent

Accurate records should be kept of the amount and character of supervision, time spent by principals in office routine and in class room instruction

Regular semi-annual promotions are not made in the Waterbury system. Where regular promotions occur but once a year, so that units of work for a grade are large, and where there are many oversize classes rendering individual instruction out of the question, not very many promotions throughout the year can be made to advantage

In order to decrease the amount of time lost through non-promotion a system of regular semi-annual promotions should be introduced into the elementary schools and the high school. Causes for non-promotion are stated in the annual promotion reports sent to the superintendent.

Notices of impending failure of pupils are sent to parents in time to affect the programs of pupils. In the elementary schools promotions are by subjects. About 90% of the pupils on the register at the end of the year are promoted, although the promotion problem is particularly acute in Waterbury on account of

- (a) the rapid growth of the city—almost 60% in ten years
- (b) the influx of non-English speaking people
- (c) the entry into the grade of large numbers of immature pupils under 5 or slightly over
- (d) the large number of overage children in the lower grades

The causes of dropping out in individual cases are not ascertained and recorded as a matter of routine

Records of dropping out and the causes of dropping out should be kept in each school building and in the office of the superintendent of schools

The elementary school should offer more than the one full course. There are no intermediate schools nor is there any differentiation in the last two or three years of the course given

Each teacher is not expected at the beginning of each term to make a careful age-progress-health study of her class in order to learn 100% of her overage and retardation problem

For the purpose of locating children specially needing attention, each teacher should be required at the beginning of each term to make a careful age-progress-health study of her class, which shall be kept currently up to date by marking pupils who have dropped out, been transferred, or received promotions during the term

Where there are several classes in each grade in the same building, children are not assigned to classes according to age, mental age, physiological age, or degree of retardation or acceleration; but children are divided "fairly" among the teachers. This results in unnecessary extremes of age, size and progress within each individual class. In age, for example, 4 classes showed each a difference between the oldest and youngest child of $9\frac{1}{2}$ years or over. Of the 17 classes in the upper 5 grades of one school, 13 contained both slow overage children and rapid underage children. See p. 3, cover

These age-progress studies along with other data should be made the basis for classification and continuous reclassification of pupils. The necessity for such classification is indicated by the fact that an age-progress study of one grammar school with a membership of over 1,300 (the material for which study was supplied through the earnest cooperation of the principal and teachers) shows that in this school 4 times as many pupils lose time as gain time

While the budget estimates for textbooks and supplies are carefully computed on a unit cost basis, the budget estimate form as submitted does not state the number of units and the unit costs for janitors' payrolls and supplies, various items of expense, maintenance and repairs and manual training

The whole school budget should be reduced to a basis of units and unit costs

*Sufficient care is not given to pass along in a regular way efficiency devices from principal to principal and school to school. For example, an excellent device used by one principal for locating children exposed to danger of contagion, is not in use in other schools of the city

A clearing house should be established in the superintendent's office through which (1) efficiency devices in administration or instruction found to be valuable in any school within or without the system may be made immediately available to all Waterbury schools, and (2) the superintendent, the board and the public may currently be told where attention is needed

In one elementary school 3 ninth grade classes had memberships respectively of 29, 27 and 35, while 3 first grade classes had memberships of 55, 55 and 54

Where such conditions exist small classes could be combined and large classes divided without any increase in the number of teachers and to the great advantage of the efficiency of the school as a whole. For example, in the case cited, the first grade could have been organized in 4 classes and the ninth in 2 without any increase in the number of teachers and without any class having more than 46 pupils

Membership of Classes

Grade	Less than 30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80 to 115	Average
K	3		2	1	2	1	2			1	1	3	59
1		3	9	8	10	3							50
2	7	4	6	3	4	1							44
3	3	5	12	8	3								44
4	1	1	6	6	10	3							42
5	3	3	3	5	12								40
6	2	4	5	12	1								36
7	5	4	6	6	1								36
8	4	1	3	1									32
9	6		3	2	1								31
	21	26	38	61	45	22	5	2		1	1	3	

Membership and attendance reports to the superintendent, in addition to the usual membership figures, do not contain membership figures which result from

- (a) counting every child as a member until his absence, irrespective of its length, has been satisfactorily explained and his membership cancelled officially by the superintendent
- (b) counting as members pupils who have dropped out of school finally during the course of the term without completing an elementary school course

The second figure need be obtained at every promotion only for the purpose of using it as a basis for computing percents of promotion, non-promotion and dropping out

Stating membership on the first basis is desirable for administrative reasons and tends to put a check on truancy and unnecessary absence. Membership on the second basis is necessary as one element in measuring social efficiency of schools—their efficiency in retaining children to the end of the elementary school course and to the end of the high school course

The allotment of time to arithmetic, etc., for the various grades is open to question

The whole time schedule should be subjected to a thorough study, in connection with studies of

- (a) the course of study in relation to life
- (b) methods of teaching in relation to the development of judgment, initiative, and power of adaptation to actual conditions
- (c) dropping out in the various grades and at the various ages, with its causes
- (d) failure and its causes in the various subjects of the course, in various grades and schools, and among pupils of various origins

**DEFECTIVE CONDITIONS EASILY CORRECTED
WITH SUGGESTIONS FOR REORGANIZATION
FOR WHICH STATUTORY ENACTMENT
IS NECESSARY**

Owing to the fact that the whole board of education comes up for election every year, continuity of policy is made very difficult. When the present board was elected, 5 of the 7 were new men

Arrangements should be made by which not more than 2 members shall be elected annually or semi-annually. Whether it is possible to put this into effect at once or not, the 6 following questions should be used in testing individuals considered for the school board:

- (a) are they interested in the success of the public school?
- (b) do they know reasonably well the local conditions which the public school is supposed to express and the local needs which the public school is supposed to meet?
- (c) are they in the habit of basing judgment upon facts?
- (d) are they in the habit of working from first hand information instead of hearsay?
- (e) can they use effectively such sources of information as school records, reports of state and national bureaus of education, the valuable discussions of school methods and advance steps in educational journals?
- (f) are they capable of managing any other business where the number of subordinates, patrons and days spent equals the number of subordinates, patrons and days spent of Waterbury's school system?

Owing to the short term of office of the inspector of school buildings and the frequent changes in personnel, the inspection of repair work and janitorial work suffers

The inspector of school buildings should be placed under civil service regulations

**DEFECTIVE CONDITIONS EASILY CORRECTED BUT
REQUIRING INCREASED APPROPRIATION,
WITH CONSTRUCTIVE SUGGESTIONS**

Physical examination of school children is inadequate, and the continuous record cards contain no physical data, hence proper follow-up work is impossible

The school officials should help the board of health to secure a sufficient appropriation to make possible a thorough physical examination of each school child each year, the entering of the resulting data on the children's continuous record cards used by the board of education, and effective follow-up work by nurses and physicians

No school buildings are supplied with humidifying apparatus

Every school building should be supplied with some form of such apparatus if only a pan of water. One building should be so supplied as an experiment and the resulting improvement in the health of pupils and reduced cost of heating should be tested by comparison with records in other buildings

Children's outer clothing is either hung on racks in the corridors or in cloak rooms with no ventilation save by the windows

Ventilated cloak rooms should be supplied in all school buildings hereafter constructed

Several of the older school buildings and several toilets have practically no ventilation save by windows

Wherever on account of disproportionate expense it is undesirable to provide forced ventilation, the latest and best devices for using window ventilation without danger to children's health from drafts should be installed

Some school buildings are still unprovided with fireproof landings at the bottoms and tops of stairways

No building of more than one story should be allowed to remain in this condition if it is to continue in use for school purposes

One school is provided with fire escapes which increase fire risks to children and teachers in the building

These should be replaced at once by adequate and safe escapes

No manual training or sewing is taught in the high school

These courses should be given if the high school is to meet 100% of the community needs

*The manufacturing city of Waterbury needs more continuation instruction. The feasibility of such instruction has been proved by the wise policy of the board and the superintendent and by the cooperation of organized labor and of employers of labor

The superintendent's policy of satisfying demands for continuation training as they become apparent should be heartily supported by the board of education and the citizens of Waterbury. The present waiting list of 40 indicates the reality of the present demand

Waterbury has no technical high schools and no facilities for technical instruction in the present high school

In view of the fact that the present high school has double sessions, and that the city is an industrial center, Water-

bury should proceed immediately to the construction of the technical high school which has been under consideration for years

*Principals of elementary schools with from 12 to 14 classes have no clerical assistance, so that they are not able to give a sufficient amount of time to class room supervision

Clerical assistance should be supplied to the principals in the ratio of at least one assistant to 36 rooms, the assistants to go where necessary, from principal to principal according to a regular schedule

Social center and neighborhood work in connection with the schools is under present conditions practically impossible in Waterbury. For example, no school in Waterbury is provided with a gymnasium or shower baths and no elementary school has an auditorium. The lack of auditoriums makes it impossible for principals to meet all their pupils in general exercises, for teachers to meet parents of pupils at parent-teacher meetings, or for neighborhood organizations to hold meetings in the most conveniently located building in the neighborhood—a building moreover, which is the property of the public

No future school building should be constructed without supplying adequate provisions for neighborhood activities. The use of expensive school buildings only 6 hours a day for 200 days in the year is uneconomic

Waterbury provides inadequate school room accommodation and insufficient number of teachers for the children attending its schools as is shown by the following facts:

(a) 840 pupils in the elementary school of Waterbury are on part time. The 5 unoccupied class rooms even if properly located would be entirely inadequate to take care of the part time children. These pupils are distributed as follows:

Grade	I	II	III	IV	V	VI	VII	VIII	IX	Total
No.	103	96	175	225	174	0	67	0	0	840

(b) of 198 elementary classes 59 have 40 to 45 pupils per teacher, 54 have 45 to 50 pupils per teacher, 20 have from 50 to 55 per teacher, and 4 have 55 or over per teacher, excluding kindergarten classes and mixed classes which are few in number and small in size

That Waterbury, which, according to the report of the state commission of education, ranks fourth in population, fourth in registration, fourth in amount received from the state and fourth in the 1909 examination, ranks only 119th in amount

spent per child based on enumeration, and only 82d based on average attendance, is not due to low salaries paid her teachers. According to the report above cited, only 8 cities and towns in the state surpass Waterbury in salaries paid, if the district schools be included, and only 4 if the schools of the second taxation district be considered by themselves. If, as appears to be the case, the low cost per child is due partly to overcrowded classes and perhaps to part time unavoidable with the present equipment, Waterbury is paying too large a price for her showing in economy

The board of education should take immediate steps to learn whether the Ettinger part time plan (New York) or the plan used in Gary, Indiana, whereby 2 class rooms do the work usually done by 4 or more, would not greatly relieve the situation both as to part time and oversize classes. The board of education should determine just what construction will be necessary to cope with any wants which cannot be met by reorganization, and with the extremely rapid growth in school population. Whatever new construction is necessary should be immediately undertaken

The complete report of the Bureau has been published in all our daily papers and I wish to thank you for the fairness with which you made your survey here.

Beyond a doubt your report will help me greatly in my work and will secure for us better boards of education, more liberal appropriations and an awakening interest among the general public. Quite a number of your suggestions I have put into operation at once and shall continue to take them up as rapidly as possible. We have just put our schools on an eight year basis and begun the preliminary work about revising our work in arithmetic. The principals have already arranged their card indexes by grades and rooms and I have been making plans so that our census next fall would be taken on a card index. In regard to the latter it seems to me that if we had it on a card index, we ought not to be obliged to pay five cents per name as we do at present because the work of the enumerators would be very much less.

Letter from Sup't. B. W. Tinker, May 6, 1913

CLASSROOM INSTRUCTION
IN 54 CLASSES
OF
ST. PAUL'S ELEMENTARY SCHOOLS

EXTENT OF SURVEY

Visits consuming $19\frac{3}{4}$ hours from February 14th to 20th, 1913, to 54 classes in 8 school buildings

SUBJECT	Kg.	GRADE								TOTAL
		1	2	3	4	5	6	7	8	
Reading.....	8	4	4	2	2					20
Composition.....	1	1	1						1	3
Grammar.....								1	3	4
Spelling.....								1		1
Phonics.....	1									1
Arithmetic.....	1	3	1	1			2	3		11
Geography.....				1	3	1				5
History.....						1	1	2		4
Music.....		1				1				2
Drawing.....	1				1		1			2
Manners.....							1			1
Total.....	1	10	9	6	4	6	4	4	10	54

Interviews with teachers, principals and superintendent taking $12\frac{1}{2}$ hours

GENERAL FINDINGS

In 23 of the 54 classes visited the instruction was excellent: 8 in reading; 5 in geography and history; 4 in arithmetic; 2 in music; one in manners, phonics, language; and one kindergarten class

In 31 of the 54 classes the teachers showed the need for helpful and sympathetic supervision: 12 in reading; 7 in arithmetic; 4 in grammar; 4 in geography and history; 2 in language; one in spelling and one in drawing

Of 31 teachers whose work showed the need for supervision and direction, 24 protested that they were not to blame for existing conditions, and raised objections to

- a—The textbooks supplied for reading classes and the lack of supplementary material
- b—The failure to require systematic instruction in phonics
- c—The course of study in grammar and the course of study in spelling
- d—The textbook and course of study in arithmetic

In at least 30 of 54 classes visited the subject matter of the textbooks was dull, deadening and without interest to pupils

In 45 of 54 classes teachers took a moment or two to open windows and gave pupils a sharp gymnastic drill. The beneficial results were evident

In 2 rooms some children could not reach the floor with their feet when sitting. In not a single room visited were seats properly adjusted to all pupils

The finish of walls in all buildings visited was a dark green. This decreased the light, especially in rooms where the lighting area of windows was far too small to properly light the rooms

In 6 of 8 buildings it was found that children clean all erasers and blackboards. The pounding together of erasers is unhealthful and unsanitary and results in children's breathing not a little of the chalk dust

In 30 rooms blackboards were found in a most untidy condition, partly due to poor cleaning and partly to negligence and carelessness in erasing written work

In but 6 out of 38 recitations in which the use of blackboards was necessary to get the best results, was the blackboard used. In 2 rooms most of the blackboard was so covered up it could not be used. In one room the principal explained that he did not like to insist on clearing the boards because it would hurt the teacher's feelings

The records showed that since September, 1912, and up to February 14, 1913, every school in the city had been visited by the superintendent once and a second visit had been made to most schools. In all, over 100 visits had been made. The record shows unusual energy in visiting on the part of a superintendent

In 2 of the buildings visited, meetings of principal and all teachers are held regularly and are made the occasions for carefully going over school problems that all teachers are interested in. Meetings with groups of teachers having common problems are held as frequently as needed, and "experience" meetings are held every six weeks when each teacher relates facts that show defects in instruction and discipline. These are considered and discussed. Frequent conferences with individual teachers are held by the principal to work over special problems

CLASSROOM INSTRUCTION BY SUBJECTS

Detailed descriptions of each recitation visited, working papers of children, etc., were submitted to the St. Paul Committee with the original report

MUSIC

Observation base: Two formal classes, one in 2nd grade and one in 6th grade. At other times pupils were heard in rote songs

The work shows the effect of careful and intelligent supervision. In every case where singing was heard, whether in a regular music class or otherwise, the voices of the children were of the soft, light quality so much sought by directors of singing in public schools. In the 6th grade lesson the singing by the children of "Twilight" was especially dainty and accurate

The pupils in both the classes heard were doing individual work in reading music. In one room two children sang a two part song without self-consciousness; in the other room the little 2nd graders without hesitation sang their exercises and sang exceptionally well

READING

Observation base: Twenty classes, 8 in 1st grade, 4 in 2nd, 4 in 3rd, 2 in 4th, and 2 in 5th

A comparison of classes shows what a great difference there can be in the subject matter used in teaching reading to children in the primary grades. In one lesson the reading

by pupils was a mere calling of words. Pupils named words as if listed in columns, entirely unrelated. The teacher realized that the reading was lifeless and tried very hard to get a bit of expression in the reading. She read each sentence as she wished it rendered and the pupils tried just as hard to imitate her, but it was almost impossible to interest children in *A rat is in the trap, The man has on his hat, Had the man a cap on?*

In another lesson a child unconsciously and almost in spite of itself, even if stolid and indifferent, became enthusiastic when reading

“Where are you going, my little cat?”
 “I’m going to town to get me a hat.”
 “What! A hat for a cat!
 A cat get a hat!
 Who ever heard of a cat with a hat?”
 “Where are you going, my little kittens?”
 “We’re going to town to buy some mittens.”
 “What! Mittens for kittens!
 Do kittens wear mittens?
 Who ever saw little kittens with mittens?”
 “Where are you going, my little pig?”
 “I’m going to town to get a new wig.”
 “What! A wig for a pig!
 Can a pig wear a wig?
 Who ever heard of a pig with a wig?”

When this dialogue was rendered by different pairs of pupils, all vied with each other to read the lines with the best possible expression

A comparison of two lessons shows the difference in teaching efficiency due to different methods. In one lesson children read the story of *The Little Red Hen and the Sly Fox*. The boys and girls found no difficulty in recognizing the words and getting the thought. They read with facility and fine expression. In the other lesson the children were absolutely unable to help themselves. They read *brothers* as *purty*, *my* as *mamma*, *it* as *I*, *I have a pretty puppy* as *Harold has a pony*, *this is Harold’s birthday* as *I do see*, and *I do not like big dogs* as *I do I do I do one kitty baby dogs*

Some of these children appeared to be defective but the majority seemed of normal capacity. Some had been in school 3 years. The physical conditions in the room were bad, the light poor, many of the desks far too large for the children so that their little legs were dangling in air. Worst of all the teacher’s hearing was so defective that it was only with the greatest difficulty she was able to understand what the visitor said to her. Indeed it is doubtful if she is able to hear when addressed in ordinary speaking tones unless she is watching the lips of the speaker. This was the poorest work observed

The reading in at least 10 of the 20 classes visited showed that pupils were greatly handicapped because they could not make out the words of the lesson. Getting thought under such circumstances is practically impossible. This kind of reading results in failure when a pupil comes to study history, geography or civics. Even in the solution of arithmetic problems pupils fail, not so much because they cannot perform the operations, but because they have failed to read problems and so failed to understand the conditions stated. One 8th grade teacher made an earnest plea for more time to teach reading. She stated that the inability of pupils to get the thought from a printed page was pitiful and resulted in failure to get on later in all subjects involving reading; that while 200 minutes per week were prescribed for reading, whenever pupils were deficient in any other subject reading was always the subject sacrificed

Three principals and 7 primary teachers stated that some years ago when the primary reading was directed by a primary supervisor, phonics were taught to children, but that in recent years the teaching of phonics had been discouraged. One principal and one teacher stated that they had been ordered to stop emphasizing phonics, although they believed that to teach reading most effectively phonics should be systematically taught. In every class where children read fluently it was found that the teacher had taught phonics to the children. In every case where children had serious difficulty in recognizing the words of the lesson phonics had either not been taught at all or greatly neglected. In 8 of the 20 classes visited the reading was fluent and the children were able to read so as to get the thought. In the 12 other classes the reading was labored and pupils had more or less difficulty in determining what the words of the lesson were

The question of reading material was discussed with 5 principals and 22 teachers. It was the consensus of opinion that teachers were greatly handicapped by the lack of suitable material. In the upper grades some supplementary reading has been supplied, but it was claimed by some principals that part of this was selected without consulting the needs of the children and was therefore unsuitable

In the primary grades the need is the greatest. The children may have 2 books in a class, one supplied by the school and one bought by the pupil. In one school, a third book had been added with money raised by the sale of old papers and magazines

One 1st grade teacher when asked how much her pupils could read during the term stated she did not know, that she had never had an opportunity to find out; that they went over

and over the 2 books available and had no other material to read. She felt sure, if only they had the books, the children could just as well as not read 10 or a dozen books a term

The experience of teachers in other schools has demonstrated that children in the first grade when properly taught can without difficulty complete 20 standard primers and first readers during the first year's work. This is done by children who have not enjoyed the advantages of the kindergarten

In one 8th grade class pupils were discussing the **Man Without a Country**. These pupils had a fine appreciation of the story and discussed it intelligently. The teacher in charge was one of the ablest seen

In other classes pupils were reading from the textbooks in history and geography. On the whole the children did not read effectively as was shown by their inability to tell in their own words what had been read

In 2 of the buildings visited the reading was excellent while in the other 6 it was poor or mediocre

LANGUAGE AND COMPOSITION

Observation base: Three classes, one in 2nd grade, one in 3rd, and one in 8th

The 2nd grade recitation was delightful. Children 6 and 7 years old were called on and in a spontaneous way told what they had to say. One delivered a short address of welcome to the visitors. Another told of an adventure in a sail boat. The children had something to say and said it freely. When a child was called on and had nothing to say, it was not urged. But in every such case the child was disappointed that it had nothing to tell

In the 3rd grade pupils were copying formal, uninteresting "stories" from the blackboard. The children had formulated the stories under the leadership of the teacher. They gave these stories because they had to say something and not because they had something to say

To test the ability of pupils to express themselves in writing and also to find out what pupils knew of their home city, 177 pupils in the 7th and 8th grades in 7 rooms located in 4 different buildings were asked to write on this subject, put on the blackboard: **Is St. Paul a desirable city in which to live? Give reasons.** In every class teachers were glad to have their pupils write on this subject. In no class was

less than 15 minutes given for the exercise. In some classes pupils had 30 minutes. In nearly every class pupils had all the time they desired and wrote all they wished to write. Pupils were directed not to write their names on their papers nor the name of the school, but to indicate the grade to which they belonged. In some cases pupils also indicated their ages. These papers were grouped by grades into two classes, good and poor. Unfortunately the grading of papers is a matter on which individuals differ. In the opinion of the investigator less than 10 per cent. of the papers showed sufficient power in writing English to warrant a passing mark

GRADE	NO. PAPERS		
	Good	Poor	Total
8 A	25	20	45
8 B	27	39	66
7 A	3	16	19
7 B	4	43	47
Total	59	118	177

Examples selected from papers graded as good, medium and poor, illustrate the variety of work

8 A Grade (Age 13), good

St. Paul is one of the best cities in the United States in which to live.

It is situated in the north central part of the United States and therefore has a temperate climate which is most advantageous to the health of the people. Its central position makes it accessible from all parts of the country by railroad beside being situated on the "Father of Waters" which affords it a waterway to the Gulf of Mexico.

Another advantage is that it is not far from the Great Lakes which can be easily reached by railroad. This gives it a water route almost all the way to the Atlantic.

8 A Grade (Age 13), medium

St. Paul is a very good place to live. Because it is a place where people can get a good education and people are more apt to get a positions and more money than anywhere else. The climate is agreeable and that is why so many people come from other parts of the world to live here and people can live more cheaply here.

8 A Grade (Age 16), poor

Is St. Paul a good place in which to live? Reason. I think St. Paul is a good place to live. It is a healthy city. There are a great many park for the people to enjoy their selves. They have a good way of providing for the sick and poor.

8 B Grade, good

What makes St. Paul a Desirable to live in

1. For its health.
2. For its clean streets.
3. Its good schools.

4. Its a beautiful city.
5. Has a good fire department.
7. Good waterworks.
8. For its position.
9. Has a good police force.
10. Has many railroads.

8 B Grade, medium

St. Paul has a temperate climate, agreeable summers and winters, it is reached by many railroads, its is a clean city and has a fine system of waterworks, it has many good schools and colleges, it is connected by trolley with many summer resorts and has fine parks.

8 B Grade, poor

St. Paul is a desirable place to live because they have pure water and they try to keep it clean and healthy and they have 15 beautiful parks and the are building all the city buildings so they have fresh air and have them clean. And they have some of the finest street cars in the World and you travel rapitely. and the city is govened so well lately the st Paul will be the best city in the united states in time.

7 A Grade, good

St. Paul is is a good place to live in. It has street car, railroads, electric lights, fine buildings, beautiful scenery and beautiful parks and lakes. It has fine streets. It is a beautiful city, has big schools, churches and hosipals.

7 A Grade, poor

St Paul is a good place to live It has clean stre. is Electric light has fine building. it has fine lake and park and school and it is the Capital of Minnesota

7 B Grade, good

St. Paul is a good city to live in. One reason is because it is situated on the Mississippi River and it is a good place for commerce. It is one of the busiest place and there is enough water power for manufacturing. It has a very rich soil in some places and it is a good place for homes. It is in the center of great railroads. It has pure city water and the streets are kept clean. This is the healthiest city and it is very thickly populated.

7 B Grade, poor

St. Paul is a desirable place to live.

Because the climate is nice.

Because it ain't lonley

Because

St Paul is a desirable place in which to live.

Subject—a desirable place. Predicate—in which to live is St. Paul

GRAMMAR

Observation base: Four classes in 3 different schools, one in 7th grade, and 3 in 8th grade

The work was beyond the comprehension of the pupils and the time was practically wasted

In one lesson a pupil when asked how to express an action completed in present time, replied **With the nominative case.** Other children called on for similar examples gave sentences at random showing they had not the slightest appreciation of what was meant

One teacher after conducting a lesson which she realized was hopeless as far as results go, stated that "it was a shame and a waste of good time to teach those pupils grammar when their oral speech and written work were so full of errors"

In one lesson, when asked to give a sentence to illustrate the passive voice, one boy gave, **The boy has been sick.** Another boy gave **The work was done by the boy** to illustrate an intransitive verb

After the definition, **Mode is the manner of the assertion**, had been repeated by several pupils and after some discussion of it by the class, the following statements of what the definition really meant were written by the 17 pupils in the class, said by the superintendent to be in one of the best schools in the city:

The assertion means the acting part of the verb.

The way in which the Sentence is said.

Mode is the manner in which an assertion is made (ex) 1. A sentence may be expressed in more than way (2) Mode is the way in which we make a statement

(Blank)

mode is the way the Sentence is made

Mode is the manner in which the assertion is made The thing being done

Mode is the matter of assertion. In a manner a thing is done.

Mode

Mode is the maner of the asserted "means to give," fact, command, wish regest

In which way the sentence is said To say the thing in a certain way.

The way in which the thing is being done.

Mode is the manner of the assersion. means of which some thing is said

Mode is the different ways in wich a verb may be used. Example— Indicative—fact Subjunctive—wish or purpose.

Mode is the manner of the assertion means that mode tells what Rind of a sentence it is.

Mode is the maner which the assertion is made means that mode tells states a fact or ask a question

Mode is the manner the verb makes the assertion.

Mode is the manner in which an assertion is made means in what manner the sentence is written.

In the 7th grade recitation pupils were "analyzing" simple sentences. During the recitation these expressions were used: **He didn't say nothing, He ain't done it, I ain't got it, He didn't do nothing**

The following definitions were taken from the textbook in grammar used by these pupils:

A word used with or without adjuncts to denote an object of thought is called a substantive.

When we say that a sentence must contain a subject and a predicate, we speak logically. Speaking grammatically, we say that it must contain a substantive and a verb

A verb that denotes an action or feeling that passes from the doer of the action to an object on which it falls, is called a transitive verb (Latin *transire*, "to pass over")

It has been demonstrated that grammar contributes little, if anything, to the training of pupils in the proper use of language. Grammar is the science of language while the proper use of a language is a habit to be acquired by constant repetition and practice

SPELLING

Observation base: One regular class was visited and spelling was studied in connection with reading and other lessons. The teaching of spelling was discussed with 7 teachers

Pupils are required to spell words they rarely see or hear and never use. One teacher stated that she believed the work to be useless. It seems that 8 B grade pupils who habitually misspell *there*, *where*, *then*, *right*, *almost* and many other common words could employ their time more profitably than by studying *herbaceous*, *anther*, *calcareous*, *foray*

In a 1 B grade more than half of an entire recitation was used for spelling. Among the words were *squirrel*, *acorn*, *Harold*. The drill was hard, grinding, but ineffective, for the children when they met these words in the reading failed to recognize them. Should 1 B children be required to spell *squirrel* when they may have no occasion to write the word for years to come?

Many teachers are obsessed with the idea that children should be required to spell every word appearing in any lesson. If it be in physiology, children are asked to spell *aesophagus*, *diaphragm*; in geography numerous proper names, rarely appearing anywhere except in a textbook, are studied for spelling. Is it really necessary for 8th grade pupils to concern themselves with words like *fallibility*, *cauterize*, *chaledony*?

In not a single instance was any teacher found who kept a record of words commonly misspelled in written work of her pupils. The fact that pupils are using words shows that they are likely to continue using them and therefore should be able to spell them. Failure to check up and to give special attention to words habitually misspelled brings

on a condition complained of by teachers in grammar grades, high schools, colleges, and by business men who employ young people trained in the public schools. They say that children misuse words like **to**, **too**, **two**, **their**, **there**; that they misspell words **where**, **were**, **forty**, **through**, **until**, **right**

ARITHMETIC

Observation base: Eleven classes, one in 1st grade, 3 in 2nd, one in 3rd, one in 4th, 2 in 7th, and 3 in 8th. In addition to class work, seat work in primary arithmetic was observed in 4 rooms

Some of the primary teachers are most skillful in the use of helpful devices which tend to make concrete the terms used, and help greatly in forming problems for pupils to solve

In only a single instance were actual measures, as quart, yard, foot, peck, used in teaching denominate numbers involving these measures. The result was shown when pupils, asked to draw on the blackboard a line a foot long, drew lines of the following length in inches: 9, $9\frac{1}{2}$, 11, 12, 14, 16, 17, 20, 28, 30

In one class where the teacher had made use of the foot rule 3 children were asked to do the same thing. The lines drawn measured 10, $10\frac{1}{2}$ and 11 inches

In one 3rd grade class a boy was brought in front of the class and the pupils were asked to estimate his height

NO. PUPILS	ESTIMATED
7	12 feet
3	5 "
3	10 "
2	3 "
2	4 "
2	$3\frac{1}{2}$ "
1	6 "
1	24 "
1	$6\frac{1}{2}$ "

The actual height of the boy was 4 feet 2 inches

Great loss of time results from needless repetition of the operation in number combinations. In one room a teacher used cards upon which the numbers were printed. She required pupils to name the numbers and state the operation before giving the result, **7 times 8 are 56**. By this method pupils got the result at the rate of one in 8 seconds, or 112 in 15 minutes

In another room of the same grade where this drill was conducted omitting the words 7 times 8, pupils gave results at the rate of one in 2 seconds, or 450 results in 15 minutes

In another primary grade the same kind of a drill was conducted from a blackboard where the number combinations were written. The pupils were able to give results at the rate of 600 to 750 in 15 minutes

The waste of time by the use of poor methods which reduce efficiency, taken into consideration with the fact that in the upper grades pupils were found handicapped because of their inability to perform simple operations, points to greatly needed supervision to increase the efficiency of drill work in numbers in the upper grades

Great difference in efficiency was also shown by the character of the problems given by different teachers. In one 2nd grade class pupils were correctly solving concrete problems as rapidly as the teacher was able to state them, pupils giving the correct results, all of them interested and anxious to be called on for examples like:

Ned earned 50 cents one day and 25 cents the next day; how much in all?

One dozen oranges cost 24 cents; what is the cost of 6 oranges?

A boy had 27 cents; he spent $\frac{1}{3}$ of it; how much did he spend? How much had he left? What part of the money had he left?

Bananas are 20 cents a dozen; how many bananas can I buy for 10 cents?

To test these pupils on a problem with which they were not thoroughly familiar they were asked If 2 apples cost 5 cents what is the cost of 4 apples? In this 2nd grade class, 17 out of 19 pupils obtained the result almost before the problem was stated. The teacher then asked Five cents pays for 3 apples. How many apples can be bought for 15 cents? and 15 out of 19 pupils got the correct result. The principal asked If 5 cents pays for 3 apples, at that rate how much will a dozen cost? and 9 out of 19 gave the result immediately. Other problems of the same kind were given and with practically no hesitation the pupils were able to give the results

The problem to find the cost of 4 apples when 2 cost 5 cents was given in 8th, 4th, and 3rd grade classes with the following results:

GRADE	NO. PUPILS	RESULT
8	13	20 cents
	4	8 "
	16	10 "
4	34	25 cents
	4	10 "
	1	8 "
	1	12½ "
3	14	10 cents
	8	20 "

In a 4th grade class the teacher asked: A boy earned 5 cents for 6 days. He then bought 3 apples at 2 cents a piece. How much money had he left? The written answers showed that 31 pupils said 24 cents, 2 said 20 cents, and 3 pupils answered respectively 33, 28 and 27 cents

In a 3rd grade recitation, pupils reading from a textbook exercises in which they were required to fill in blanks, answered:

$$\begin{aligned}
 \frac{1}{3} \text{ of } 6 & \text{ equals } 3 \\
 \frac{2}{3} \text{ of } 6 & \text{ equals } 6 \\
 \frac{1}{2} \text{ of } 7 & \text{ equals } 3 \\
 \frac{3}{4} \text{ of } 8 & \text{ equals } 2 \\
 \frac{1}{2} \text{ of } 8 & \text{ equals } 4
 \end{aligned}$$

Frank bought 3 pencils at 3 cents each. The pencils cost 6 cents.

William paid 9 cents for 3 pencils. The pencils cost 6 cents each.

All of this was review work. The advance lesson had to do with the area of figures in inches. The children had absolutely no idea what was meant by terms used, such as, **figure, amount, surface**. One child repeatedly called **area, larea**

In 2 of 11 classes, where the teacher gave a problem that appealed directly to the children, they took a lively interest and were much more effective in doing the required work. When pupils read their problems from books or from a blackboard, the appeal was not nearly so strong. The contrast between the teacher who gave problems to pupils and the teacher whose pupils were attempting to solve problems which they had to read, was great

The arithmetic in the upper grades demonstrated the inability of pupils to perform accurately the simplest computations. In a 7th grade recitation pupils were asked to add $1\frac{3}{4}$ and $1\frac{5}{6}$. Six out of 40 were unable to obtain the correct result. In subtracting $2\frac{5}{8}$ from $4\frac{1}{6}$, 7 pupils obtained a wrong result. In dividing 10 by $1\frac{1}{3}$, 14 pupils obtained the wrong results, the incorrect answers ranging from $1\frac{1}{3}$ to $10\frac{2}{3}$. In dividing $126\frac{2}{3}$ by 5, 25 out of 40 pupils obtained a wrong result

In an 8th grade recitation, when adding $1\frac{2}{3}$ and $1\frac{5}{6}$, 8 pupils were unable to give the correct result, 3 of these using 12 as a common denominator and 6 using 18. In dividing 10 by $1\frac{1}{3}$, these results were obtained: 15, 6, $7\frac{1}{2}$, 12, 26, 10, $2\frac{1}{2}$, $13\frac{1}{2}$. In dividing $126\frac{2}{3}$ by 5, the results were $25\frac{1}{3}$, 32, 12, $25\frac{2}{5}$, 76, $36\frac{2}{3}$, 24

In another 8th grade recitation, pupils were asked to find in square feet the area of a window whose dimensions were 36 inches by 42 inches. This problem was written on the blackboard so that no mistake could be made as to the dimensions. It was definitely stated that the area was to be found in square feet. These results were given: 22, 17, 156, 13, 12, 18, 14, $17\frac{1}{3}$, $12\frac{1}{6}$, $10\frac{1}{2}$

These pupils were again asked to find the interest on \$240 at $4\frac{1}{2}\%$ for 1 year, 1 month, 10 days. Nineteen different results were obtained, ranging from $\$1.33\frac{1}{3}$ to $\$99.66$. An explanation of this situation may be found in the fact that these pupils were busy just at this time in extracting the square root of numbers like 98,764, and 63,725. Ten such exercises were assigned for the lesson of the following day

In a third 8th grade recitation, pupils were solving the problem, A train travels at the rate of 150 miles in 3 hours and 20 minutes. How far will it go in 8 hours? Only 5 different results were obtained, in miles $8\frac{8}{25}$, 284, 4000, 360

In finding the interest on \$240 at $4\frac{1}{2}\%$ for 1 year, 1 month, 10 days, these pupils obtained the result in record time, every one having obtained the answer in less than 2 minutes, and all but 2 had the correct result

The teacher conducted a rapid drill in addition, subtraction, multiplication and division of whole numbers. The pupils were thoroughly alive, attending strictly to business and no time whatever was lost during the recitation

In 7th and 8th grades where pupils were required to solve intricate problems, some of which are of a character never met with in actual business life, they failed utterly when asked to solve such problems as, If a pencil costs 2 cents and is sold for 3 cents, what is the gain per cent.? In one 8th grade class, of the 33 pupils solving this problem, 16 answered 50%, 11 answered 100%, 5 answered $33\frac{1}{3}\%$, and one answered $66\frac{2}{3}\%$

In a 7th grade class the same problem was given and 8 pupils answered 50%, 9 answered $33\frac{1}{3}\%$, 3 answered 1%, and one pupil answered $\frac{1}{3}\%$. In this room considerable time was spent in trying to get pupils to demonstrate the correctness or incorrectness of the results obtained. One pupil who

was particularly insistent that $33\frac{1}{3}\%$ was correct soon reasoned himself out of $33\frac{1}{3}\%$ and concluded that 50% was the right answer; but even after that, some of the pupils who had obtained 50% for a result were not at all certain that $33\frac{1}{3}\%$ was not really the right answer

In order to study the actual work and procedure of pupils in attempting to perform different operations, sets of papers were collected to determine why pupils in the upper grades fail in computation. The papers show, for example, that in the solution of the interest problem some pupils covered a whole page of tablet paper with figures because of the very roundabout and indirect method of finding interest. Rarely did pupils use the simple cancellation method or the bankers' 60-day method so generally in use

GEOGRAPHY

Observation base: Five classes, one in 4th grade, 3 in 5th, and one in 6th

Some of the best work observed was in geography. In all of the recitations pupils recited fluently and showed they had a keen appreciation of what they were studying

Such uniformly good recitations led to the conclusion that the topical recitation method had been made effective in geography teaching. In the 4 recitations visited 2 pupils recited continuously and fluently for 4 minutes each, 4 for 3 minutes each, and 5 for 2 minutes each. At least 15 others recited for one or one and a half minutes each

In 2 rooms maps were not used though very much needed in the recitation

In a 3rd grade class pupils made charts for the study of weather conditions, requiring observation as to temperature, humidity, direction of wind, phase of moon, sunrise, sunset and length of day. The record for nearly a month was exhibited on the blackboard. Three pupils were asked to explain it and each one knew what was meant by the record. The use of similar charts by all the teachers in the grades should be encouraged

In the 4th grade class the discussion by the pupils of how raw materials, such as cotton, wood, silk, rice, wheat and flax, are made into commercial, finished products, showed a grasp and intelligence rarely found in 7th grade geography classes. The teacher kept herself very much in the background, permitting the pupils to control the time of the recitation

HISTORY

Observation base: Four recitations, one in 6th grade, one in 7th, and 2 in 8th grade

The pupils in the history classes showed little interest. The method of the recitation tended to devitalize and sap the subject matter of its life and interest

In a 6th grade recitation the class was reading stories of American life and adventure. Pupils read in the order in which they sat, each one reading one sentence. With such procedure pupils do not get the story. Pupils in this class were actually counting ahead to determine what sentence would be theirs. Occasionally they counted wrong

In one lesson the teacher actually asked 37 questions during a 20 minute period. The answers with one exception were one word answers. To get these the teacher did some desperate pumping

In each of the three 7th and 8th grade recitations teachers took up the subjects in too great detail. In one recitation the events of 1862 and the Civil War were minutely gone into, yet pupils were unable to locate points like Fort Sumpter, Fort Henry and Shiloh, about which they had been closely questioned

Two teachers were asked what the purpose of history work was. In both cases the reply was **to get over the course of study**

HYGIENE

No work in hygiene or physiology was examined. The schedule time for elementary school programs as published in the bi-ennial report of 1910-11 by the superintendent of schools provides no time whatever for this subject. Yet the state laws make instruction in this subject mandatory. In conversation with teachers it was learned that 10 minutes per week was given to this work, although this was not done regularly

HAVE YOU AGE VARIATION FACTS FOR YOUR SCHOOL?

Variation in Age Among Waterbury Pupils in Same Grade

GRADE	AGE EXTREMES	YEARS VARIATION
9	12—17	5
8	12—16	4
7	10—15½	5½
6	9—15	6
5	8½—15	6½
4	7½—15½	8
3	6½—14½	8
2	5½—16	10½
1	4½—16	11½

Years Required to Graduate

YEARS	NUMBER	% of Total Graduating
6	2	
7	7	1¾
8	66	16½
9	234	58½
10	74	18½
11	15	3¾
12	2	
Normal or less	309	77¼
Longer than normal	91	22¾

Age at Graduation

AGE	NUMBER	% of Total Graduating
12	8	2
13	43	10¾
14	109	27¼
15	139	34¾
16	76	19
17	25	6¼
Older than normal	299	75
Normal or less	101	25

Age-Progress Summary For One School

PROGRESS	AGE						AGE									
	Under	Normal	Over	Total			Under	Normal	Over	Total						
	N	u	m	b	e	r	s		P	e	r	c	e	n	t	s
Rapid	34	29	42	105				2.8	2.4	3.4				8.6		
Normal	308	250	141	699				24.9	20.3	11.4				56.6		
Slow	28	124	278	430				2.3	10.0	22.5				34.8		
Total	370	403	461	1234				30	32.7	37.3				100		

Helpful Publications for School Workers

(Postage prepaid)

Civics and Health, W. H. ALLEN	- - -	\$1.48
Woman's Part in Government, W. H. ALLEN	- - -	1.62
Organized Democracy, F. A. CLEVELAND	- - -	2.66
New City Government, HENRY BRUÈRE	- - -	1.66
Helping School Children, ELSA DENISON	- - -	1.40
Conditions and Needs of Rural Schools in Wisconsin	- - -	.14
School Reports and School Efficiency, SNEDDEN and ALLEN,	1.11	
Outside Cooperation with the Public Schools of Greater New York	- - -	.28
A Report on the Division of Child Hygiene (1911)	- - -	.28
School Progress and School Facts (1909)	- - -	.29
School Stories: A Topical Guide to Education Here and Now (Illustrated; abridged)	- - -	.07

School Inquiry Follow-up Cards

Series of 22 bulletins on the New York school inquiry, Wisconsin state survey, etc., issued 1912-1913

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10 for 15c; 100 for \$1.00

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Series of 20 bulletins giving in condensed form some "high-spots"
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